AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please delete claims 2, 3, 5, 7, 8, 13-20, 24, 26, 29, 31, 35-39, 41-49, 51-53, and 55-90 filed in the International application PCT/AU2003/001313, and amend claims 4, 6, 9-12, 21, 23, 25, 27, 28, 30, 32, 40, 50, and 54 as follow.

Listing of Claims:

1. (Original) A method of forming a polycrystalline semiconductor film on a supporting substrate of foreign material, the method comprising:

i. depositing a metal film onto a target surface of the substrate on which the polycrystalline semiconductor film is to be formed;

ii. forming a film of metal oxide and/or metal hydroxide on a surface of the metal;

iii. forming a layer of an amorphous semiconductor material over a surface of the metal oxide and/or metal hydroxide film;

iv. heating the substrate, the metal, the metal oxide and/or metal hydroxide film and the amorphous semiconductor material to a temperature at which the semiconductor layer is absorbed into the metal layer and deposited onto the target surface by metal-induced crystallisation (MIC) as a polycrystalline layer, whereby the metal is left as an overlayer covering the deposited polycrystalline layer, with semiconductor inclusions in the metal layer, and the polycrystalline semiconductor film and the overlayer separated by a porous interfacial metal oxide and/or metal hydroxide film, with which the semiconductor inclusions are in contact;

v. removing the metal in the overlayer and the interfacial metal oxide and/or metal hydroxide film with an etch which underetches the semiconductor inclusions to form freestanding islands weakly connected to the polycrystalline layer, without significantly thinning the underlying polycrystalline semiconductor layer;

vi. removing the freestanding semiconductor "islands" from the surface of the polycrystalline semiconductor layer by a lift-off process.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The method of claim 1 ~~, 2 or 3~~ wherein the substrate comprises a sheet of substrate material over which a preliminary layer is deposited and the target surface is a surface of the preliminary layer.

5. (Cancelled)

6. (Currently Amended) The method ~~as claimed in any one of claims 1 to 5~~ <u>of claim 1</u> wherein, as a result of the MIC step, metal atoms are left in the polycrystalline layer which act as dopants and after the lift-off process, the polycrystalline semiconductor layer is doped with a dopant which overcompensates the doping caused by the metal atoms left in the polycrystalline layer after the MIC step, thereby causing the polycrystalline semiconductor layer to have an overall doping polarity which is opposite to that which would occur due to the metal atoms alone.

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) The method ~~as claimed in any one of claims 1 to 5~~ <u>of claim 1,</u> wherein, as a result of the MIC step, metal atoms are left in the polycrystalline layer which act as dopants and the amorphous semiconductor material is doped during its formation with atoms that produce an opposite-polarity doping when compared to the polarity of doping caused by the metal atoms left in the polycrystalline layer after the MIC step, the opposite polarity doping being sufficient to overcompensate for the presence of the metal atoms whereby after the MIC step the net doping is opposite in polarity to that which would be produced by the metal atoms alone.

10. (Currently Amended) The method ~~as claimed in any one of claims 1 to 9~~ <u>of claim 1</u>, wherein the substrate is a material selected from the group comprising sapphire, quartz, glass (including float glass, borosilicate glass and other glass types), metal, graphite, ceramics, plastics and polymers.

11. (Currently Amended) The method ~~as claimed in any one of claims 1 to 10~~ <u>of claim 1</u>, wherein the polycrystalline semiconductor film is of a semiconductor material selected from the group comprising silicon, germanium, and an alloy of silicon and germanium.

12. (Currently Amended) The method ~~as claimed in any one of claims 1 to 11~~ <u>of claim 1</u>, wherein the metal is selected such that the metal forms a eutectic solution with the selected semiconductor.

13. - 20. (Cancelled)

21. (Currently Amended) The method ~~as claimed in any one of claims 1 to 20~~ <u>of claim 1</u>, wherein the metal and metal oxide and/or metal hydroxide etch is performed with a phosphoric acid solution.

22. (Original) The method of claim 21 wherein the phosphoric acid solution is a 100% solution of 85% phosphoric acid, and the etch is performed at 130°C ± 3°C for 20 minutes ± 30 seconds.

23. (Currently Amended) The method ~~as claimed in any one of claims 1 to 22~~ <u>of claim 1</u>, wherein the lift-off process is selected from the group comprising an acoustic treatment in a solution bath, a brush scrubbing process, or a hydrodynamic jet process.

24. (Cancelled)

25. (Currently Amended) The method ~~as claimed in any one of claims 1 to 24~~ <u>of claim 1</u>, wherein the method further includes the step of, upon completion of the lift-off process, performing a uniform surface treatment to improve the surface finish of the sample prior to subsequent use of the semiconductor film.

26. (Cancelled)

27. (Currently Amended) The method ~~as claimed in any one of claims 1 to 26~~ <u>of claim 1</u>, wherein the metal layer has a thickness in the range of 30 – 500 nm.

28. (Currently Amended) The method ~~as claimed in any one of claims 1 to 27~~ of claim 1, wherein the amorphous semiconductor layer used in the metal-induced crystallisation process has a thickness in the range of 30 – 750 nm.

29. (Cancelled)

30. (Currently Amended) The method ~~as claimed in any one of claims 1 to 29~~ of claim 1, wherein the metal-induced crystallisation is performed by annealing the sample at a temperature of 650 °C or less.

31. (Cancelled)

32. (Currently Amended) The method ~~as claimed in any one of claims 1 to 31~~ of claim 1, wherein the polycrystalline layer formed by metal-induced crystallisation on a foreign substrate is used as a seed layer for the formation of a further polycrystalline layer, the method further comprising:

cleaning the surface of the seed layer to remove any oxides or other contaminants;

forming a second amorphous layer of a semiconductor material over the cleaned surface of the seed layer;

heating the substrate, the seed layer and the second amorphous layer to crystallise the semiconductor material by solid phase epitaxy (SPE).

33. (Original) The method of claim 32 wherein the semiconductor material of the seed layer and the second amorphous layer are of the same semiconductor material with the same or different doping.

34. (Original) The method of claim 32 wherein the semiconductor material of the seed layer and the second amorphous layer are different semiconductor materials.

35. - 39. (Cancelled)

40. (Currently Amended) The method ~~as claimed in any one of claims 32 to 39~~ <u>of claim 32</u>, wherein the second amorphous layer is simultaneously doped as it is formed.

41. - 49. (Cancelled)

50. (Currently Amended) The method ~~as claimed in any one of claims 32 to 49~~ <u>of claim 32</u>, wherein the amorphous semiconductor material of the second amorphous semiconductor layer is doped to a predetermined doping profile during an electron beam evaporation deposition process using resistively heated p-type and n-type dopant effusion cells in the vacuum electron-beam evaporation chamber while the deposition process takes place.

51. - 53. (Cancelled)

54. (Currently Amended) The method ~~as claimed in any one of claims 32 to 49~~ <u>of claim 32</u>, wherein the step of cleaning the seed layer surface comprises a process which creates a hydrogen-terminated silicon surface and the substrate is transferred to the semiconductor deposition chamber within 60 minutes of completion of the cleaning step.

55. - 90. (Cancelled)